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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,538	07/23/2003	William J. Kroppe	8200.735	7522
7590 11/30/2005				
Liniak, Berenato & White 6550 Rock Spring Drive, Ste. 240 Bethesda, MD 20817				
			EXAMINER ILAN, RUTH	
			ART UNIT 3616	PAPER NUMBER

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/624,538

Applicant(s)

KROPPE, WILLIAM J.

Examiner

Ruth Ilan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 23-25 and 29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 26-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/23/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Species I- Figure 2a in the reply filed on 8/30/05 is acknowledged. The Applicant has asserted that claims 1-27 read on the elected embodiment and that these claims are generic. The Examiner respectfully disagrees. Claim 28 appears to be generic to at least the elected embodiment. Claim 23 recites that the force device is connected in parallel with one of the shock absorber and coil spring. This limitation is not shown in any embodiment. Claim 24 recites that the force device is connected in series with a combination of the coil spring and the shock absorber, which is disclosed in the embodiment of Figure 2b. Claim 25 recites that the force device is connected in series with one of the coil spring and the shock absorber, which is shown in either Figure 2c or 2d. As such, claims 23, 24, 25 and 29 are withdrawn from consideration, as being drawn to a non-elected embodiment.

### ***Claim Objections***

2. Claim 21 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 21 depends from itself. For the purposes of examination, it will be assumed that claim 21 is intended to depend from claim 20.

3. Claim 28 is objected to because in line 26 "and" should be "an".

### ***Specification***

4. The disclosure is objected to because of the following informalities: On page 3, line 21, and in keeping with the symbols shown in the Figures, the shock absorbers should be "4" and coil springs should be designated "3".

Appropriate correction is required.

### ***Drawings***

5. The drawings are objected to because no units are shown in Figure 5 and the block diagram does not provide labels for the blocks. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-22, and 26-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Doubts as to possession of the claimed invention arise because claim 1 recites "and controlling said device in response to at least one vehicle operating parameter", claim 12 includes the limitation of a controller that "processes said signal". Claims 8 and 20 include a "predetermined algorithm". Claim 27 includes the limitation of directly modifying the suspension response "by means of a predetermined algorithm". Claim 28 recites "deriving a control signal". The claimed invention as a whole is not adequately described because none of the control law is described. There is no discussion of transfer functions, and it is not clear what is the "predetermined algorithm" Each of the embodiments shows the force device is a very different configuration, and as such it is unclear how the cursory discussion provided would be implemented in the roll control scheme. Further regarding claims 4 and 16, which recite "said electrical/magnetic field" is applied to said fluid by a coil integrally connected to said piston". It is not clear if a magnetic field is applied by a

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coil spring. It is the Examiner's understanding that known rheological dampers that use magnetic fields to vary fluid viscosity don't generally include coil springs.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-11, 14-17, 22, and 26-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1, line 7 recites "each of said wheels". Claim 5, line 2 recites "said at least two wheels". Claim 11 recites "said force devices". Claim 14, line 1 recites "said magnetic rheologic force devices". Claim 17 recites "said electrical/magnetic field applied" Claim 22 recites "said rheologic force device. There is insufficient antecedent basis for these limitations in the claims. Further regarding claim 15, claim 14 recites ""said magnetic rheologic force devices" but claim 15 recites more generically "an electrical/magnetic field" so it is unclear if the device is a magnetic device or an electric device or generically a rheological device. The same confusion occurs in claim 27, which recites throughout "magnetic rheologic device" and then "said fluid viscosity being dependent on the electrical field applied to said fluid." Claim 28 is very confusing because in lines 1 and 2 it recites "at least one pair of axles" and in lines 4 and 6 recite "first wheel supporting member" and "a second wheel supporting member" which rotatably support the wheels. It is unclear what is the difference between the wheel support members and the axles. The only wheel support

members that are disclosed as rotatably supporting the wheels are axles. See also claim 13 for evidence that the wheel support devices are intended to be axles.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-10, 12-22, 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolfe (US 5,390,121) and Carlson et al. (5,284,330) in view of Karnopp et al. (US 3,807,678.) Wolfe teaches a suspension system supporting a vehicle body (22) and including an energy absorbing assembly including a spring (30) and a rheological force device, that disclosed by Carlson et al. in US 5,284,330 and incorporated by reference by Wolfe (see col. 4, lines 40-48.) Also taught are sensors that include steering wheel angle sensors and speed sensors and lateral acceleration (58A and 58B.) Also taught is a 12Volt power source (64.) A predetermined algorithm is used to control the variable supplemental resistive force (see col. 6, line 44-col. 7, line 45.) As shown in Figure 6, the semi active suspension is applied to all four wheels. As seen in Figure 6, the wheel support members are axles. As seen in Figure 1 the force device is connected in parallel with the coil spring (30) and have no direct connection with the coil spring. Carlson et al., who is incorporated by reference teaches the claimed piston structure, including the piston movement being dependent on viscosity and the integral coil (40.) Wolfe fails to teach a damper included with the spring. Karnopp et al.

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teaches that it is known to include a passive damper (25) with a semi active suspension system, and that such a device is useful to dampen the magnitude of amplification in the frequency range at or near resonant frequency (see col. 4, line 60.) It would have been obvious to one having ordinary skill in the art at the time of the invention to include a passive damper in view of the teaching of Karnopp et al. with the coil spring isolator of Wolfe et al., in order to decrease the magnitude of amplification at the resonant frequency.

12. Claims 11 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolfe (US 5,390,121) and Carlson et al. (5,284,330) in view of Karnopp et al. (US 3,807,678), and further in view of Dellinger (US 2004/0199313.) Wolfe and Carlson et al. in view of Karnopp et al. is silent regarding the electrical interface system. Dellinger teaches that it is understood that the suspension control unit can be modular and each damper can have a separate electrical interface system (see para [0015].) It would have been obvious to one having ordinary skill in the art at the time of the invention to include an electrical interface system between the controller of Carlson et al., in view of the teaching of Dellinger, in order to provide a completely interfaceable system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruth Ilan whose telephone number is 571-272-6673. The examiner can normally be reached on Monday-Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on 571-272-6669. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

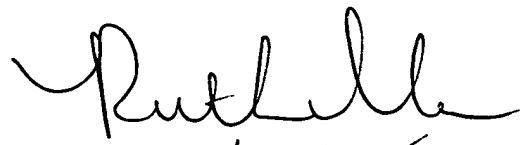


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Ruth Ilan  
Primary Examiner  
Art Unit 3616

RI  
11/28/05



11/28/05